

AMENDMENT TO THE CLAIMS

1. (Currently Amended) In a network, a method of using a messaging component, which has a network address, and a single network communication channel for sending and receiving messages by a plurality of threads of execution executing on a network computer which communicates with another network computer, the method comprising:

establishing, on the network computer, a network communication channel for use by the messaging component, ~~the network connection having a network address~~;

supplying registration information associated with each of the plurality of execution threads executing on the network computer;

receiving, via the established network communication channel, a message at the network computer by the messaging component, the message containing the network address of the messaging component, the message further containing a payload portion for identifying one or more of the execution threads;

the messaging component comparing the contents of the payload portion with the registration information for each of the plurality of execution threads; and

forwarding the received message to the one or more execution threads based on the results of the comparison,

wherein the received message is used to select a manner of data transfer, which includes selection of a direct transfer using a direct connection between the network computer and the other computer, or a referential transfer to the network computer from a network server using a reference to the network server supplied by the other network computer.

2. (Original) A method according to Claim 1, further comprising the step of:

transmitting another message originating from any of the plurality of execution threads executing on the network computer via the messaging component.

3. (Original) A method according to Claim 2, wherein the other message includes a payload portion for identifying one or more of the execution threads executing on another network computer.

4. (Original) A method according to Claim 1, wherein the network is a digital cable network and the network computer is a set-top box.

5. (Original) A method according to Claim 1, wherein the network is a digital cable network and the network computer is a cable head end.

6. (Original) A method according to Claim 1, wherein the registration information comprises an identifier and a message interest for each of the plurality of execution threads.

7. (Original) A method according to Claim 6, wherein the message interest comprises a message type either alone or in combination with a message ticket.

8. (Original) A method according to Claim 7, wherein the message ticket comprises a unique identifier for use in identifying a specific execution thread.

9. (Original) A method according to Claim 1, wherein another network computer has a messaging component, and wherein any of a plurality of execution threads that execute on the other network computer communicate via the other messaging component.

10. (Original) A method according to Claim 1, wherein the network address of the messaging component comprises a socket identifier.

11. (Original) A method according to Claim 1, wherein the network address of the messaging component comprises a MAC address.

12. (Original) A method according to Claim 1, wherein the network address of the messaging component comprises a Network Access Service Point (NSAP) address.

13. (Currently Amended) A method of communicating between a set-top box and a cable head end via a digital cable network, the method comprising:  
establishing a common network communication channel on one or the other or both the set-top box and the cable head end, wherein the common network

communication channel is shared by a plurality of applications, or execution subprocesses thereof, to send and receive messages via the digital network; and

controlling the plurality of applications or execution subprocesses to select a manner of data transfer, wherein one of the set-top box and the cable head end is a recipient and one is a transferor, and wherein selection of the manner of data transfer includes selection of a direct transfer using a direct connection between the transferor and the recipient, or a referential transfer to the recipient computer from a network server using a reference to the network server supplied by the transferor.

14. (Currently Amended) In a network computer that executes a messaging component and a plurality of execution threads, a method of determining a manner of transferring data to a recipient network computer, the messaging component having a network address and configured to receive and send network messages for the plurality of execution threads, the method comprising:

receiving a request from one of the execution threads to transfer data to the recipient network computer, the request including at least one requirement for carrying out the request;

based at least in part on the received requirement, determining a proposed manner of transfer;

transmitting, using the messaging component, a start message to the recipient network computer, the start message including the proposed manner of transfer;

in response to a rejection of the proposed manner of transfer, determining whether an alternative manner of transfer is available; and

responding, using the messaging component, to the rejection with an alternative manner of transfer where one is available,  
wherein determining the manner of transfer includes selection of a direct transfer using a direct connection between the network computer and the recipient network computer, or a referential transfer to the recipient computer from a network server using a reference to the network server supplied by the network computer.

15. (Original) A method according to Claim 14, further comprising the steps of:

determining, by the recipient network computer, whether or not the proposed manner of transfer is acceptable; and  
transmitting, to the network computer, a response message which indicates an outcome of the determining step.

16. (Original) A method according to Claim 15, wherein the start message is a portion of a payload of a network message, the payload includes a ticket portion that identifies a network address of the recipient network computer, the method further comprising the steps of:

creating a socket with an associated port on the recipient network computer, where it is determined that either the proposed or the alternative manner of transfer is acceptable; and  
transmitting an indication of the port as part of a payload portion of the response message.

17. (Original) A method according to Claim 15, wherein the recipient network computer comprises a recipient messaging component, at least one execution thread which is an intended recipient of the data transfer, and a job component, and wherein the recipient messaging component forwards the proposed manner of transfer to the job component to determine whether or not the proposed manner of transfer is acceptable and to transmit, to the network computer via the recipient messaging component, a response message which indicates whether or not the proposed manner of transfer is acceptable.

18. (Original) A method according to Claim 17, further comprising: receiving, by the job component, the data transfer via the associated port, and notifying the at least one recipient thread.

19. (Original) A method according to Claim 18, wherein the data is transferred via shared memory for access to the at least one recipient thread.

20. (Currently Amended) A method according to Claim 14, wherein the proposed manner of transfer indicates a "by-reference" delivery mode referential manner of transfer, the method further comprising:

accessing a network server referenced in the start message, wherein the determining step determines whether accessing the network server is successful.

21. (Currently Amended) A method according to Claim 14, wherein the proposed manner of transfer indicates a direct transfer a "direct" delivery mode using a specified network protocol, the step of determining, by the recipient network computer, whether the proposed manner of transfer is acceptable further comprising:

determining whether the specified network protocol is supported on the recipient network computer.

22. (Original) A method according to Claim 21, wherein the step of transmitting a response message further comprising the step of:

transmitting an indication of a port to which the data transfer is to be directed as part of a payload portion of the response message.

23. (Original) An apparatus for determining a manner of transferring data, said apparatus comprising means for performing the functions specified in any of Claims 14 to 22.

24. (Original) An apparatus comprising:

a program memory for storing process steps executable to perform a method according to any of Claims 14 to 22; and

a processor for executing the process steps stored in said program memory.

25. (Original) Computer-executable process steps stored on a computer readable medium, said computer-executable process steps for determining a manner of

transferring data, said computer-executable process steps comprising process steps executable to perform a method according to any of Claims 14 to 22.

26. (Original) An apparatus for using a messaging component by a plurality of messaging threads, said apparatus comprising means for performing the functions specified in any of Claims 1 to 10.

27. (Original) An apparatus comprising:  
a program memory for storing process steps executable to perform a method according to any of Claims 1 to 10; and  
a processor for executing the process steps stored in said program memory.

28. (Original) Computer-executable process steps stored on a computer readable medium, said computer-executable process steps for using a messaging component by a plurality of threads of execution, said computer-executable process steps comprising process steps executable to perform a method according to any of Claims 1 to 10.